THURSDAY, FEBRUARY 19, 1874.

## PHONOGRAPHIC REPORT.

### THE SIAMESE TWINS AT THE COLLEGE OF PHYSICIANS.

A SPECIAL meeting of the College of Physicians of Philadelphia was held at the hall, Wednesday evening, February 18, for the purpose of hearing the report of the Commission on the Siamese Twins,—Dr. W. S. W. Ruschenberger, U.S.N., in the chair. On motion of Dr. Gross, it was, after some discussion, resolved that the *Philadelphia Medical Times* be allowed to report the proceedings of the meeting, on condition that three hundred copies of the journal should be given to the college for the use of the members.

The bodies of the Siamese Twins being upon the table, the meeting proceeded to hear the report of Drs. Pancoast and Allen. On behalf of the Commission, Dr. Pancoast stated that, the dissection not having been entirely completed, their report would be a verbal one, to be followed at some later date by a memoir upon the subject. He further remarked that it had been agreed that he should consider chiefly the surgical aspect of the matter in hand, whilst to his colleague had been assigned the demonstration of the anatomical peculiarities.

DR. WILLIAM H. PANCOAST:

*Mr. Chairman, and Fellows of the College:*—Having been requested, as a member of the Commission, to open the discussion this evening, I will say briefly, in reference to this monster of a symmetrical duplex development, joined, as many of the Fellows now know, at the ensiform appendix and also here at the omphalos or navel, that at the investigation which we made on the first occasion at Mount Airy I made the opening incision of the body on the line for the ligation of the primitive iliac, on the right side; Dr. Allen made the incision on the left. The object was to reach the great vessels,—the aorta and two primitive iliacs,—and to force the injecting material which we used for embalming (chloride of zinc) up the aorta and down the iliacs until it ran from the incisions made in the fingers and toes. It flowed freely through the blood-vessels in Eng, owing to the ossified condition of his arteries; the injection in Chang was, however, not so successful, owing to decomposition in the tissues and blood-vessels. It was necessary to repeat the injecting process several times in order to preserve the body. The arteries of Chang were found to be very much decomposed,—quite rotten, in fact.

In Dunglison's Medical Dictionary we find the scientific name given for the Siamese Twins, in the classification of teratology, to be *Xiphopages;* and by referring to the admirable article on Diploteratology of Dr. G. J. Fisher (published in the Transactions of the Medical Society of the State of New York for the year 1866), it will be found that the twins belong in the class of *Anacatadidyma.* In his classification of double monsters he makes three orders: *Order first,— Teratacatadidyma;* derived from τέρας, τέρατος, a "monster," κατά, "down," and δίδυμος, a "twin." *Definition,*—duplicity, with more or less separation, of the cerebro-spinal axis, from above downwards. *Order second,—Terata-anadidyma,* derived from ανά, "up" or "above," and δίδυμος, a "twin." *Definition,*—duplicity, with more or less separation, of the cerebro-spinal axis, from below upwards, or from the caudal towards the cephalic extremity of the neural axis. *Order third,—Terata-anacatadidyma,* derived from ανά, "above," κατά, "down," and δίδυμος, a "twin." *Definition,*—duplicity, with more or less separation, of both the cephalic and the caudal extremity of the cerebro-spinal axis, existing contemporaneously. In this order, the monster now before us might be called an *Omphelopagus Xiphodidymus.*

Thus we have the scientific nomenclature of this monster. Of course, the consideration of greatest interest to the profession, and one of the main reasons why the Commission made such exertions to obtain this post-mortem, was that the American profession might not be charged with having neglected an effort to obtain an autopsy, which would solve the mystery of their union. The feature of greatest interest is connected with this band,—about four inches long and eight inches in circumference. In addition to this, there are other points of importance in teratology, in regard to the fulfilment of the law of homologous union, in relation to the juncture of the recti muscles and the fasciæ of the obliquus and transversalis at their point of meeting in the centre of the band. In regard to the position of the hearts, we think their apices present towards each other; but we have not yet opened the thorax. The livers we have found to approximate to each other and to push through the respective peritoneal openings into the band. We extended our incisions to the margin of the band in front. By placing my hand in the peritoneal cavity of Eng and my colleague placing his hand in the peritoneal cavity of Chang, we pushed before us processes of peritoneum, which ran on to the median line of the band; and we could feel our fingers in the lower portion of the band, behind the median line, with a distinct layer of peritoneum between them, demonstrating at once the prolongation of the peritoneum into the band, and the complete separation of one peritoneal cavity from the other at this median line. Above that we felt some traces of vascular connection, apparently running from one liver to the other; but this we will examine into when we have a better opportunity of carefully dissecting and examining what vascular structures may exist. We also noticed that in turning off the flaps consisting of the anterior walls of the abdomen, the hypogastric arteries, as illustrated by the diagram on the blackboard, ran upwards in each body into the band. We lost them in this way, as we

think, towards the common umbilicus in the anterior inferior surface of the middle of the band.

It is probable that the two hypogastric arteries on each side passed through this umbilicus. Whether or not there were two umbilical veins, we have not yet been able to decide, nor to answer the question whether the umbilical cord was double or single and composed of the four hypogastric arteries and two umbilical veins, or whether the placenta was single, double, or twin.

We also recognized that the ensiform appendix, as shown in the diagram of each side, was prolonged and united in the middle line. On our later examination, we find that there is complete continuity of structure of the cartilages, but no true joint at the middle line, although it is possible there may be some small synovial sacs farther up. The motion is mainly due, as I here demonstrate to you by moving these bodies one upon the other, to the elasticity of the connected ensiform appendices and intervening fibro-cartilages.

In regard to the vascular connection of the band, we have not yet been able to make so thorough and careful an examination as we wished; but still, in throwing colored plaster into the portal circulation of Chang it has been found to flow through the vessels of the upper part of the band into the portal vessels of Eng. So that the surgical anatomy of the band consists in the skin and fascia which cover it, the two separate peritoneal pouches which meet in the middle, the large peritoneal pouch, the vascular connection, to whatever extent that may exist between the two portal circulations, and the remains of the hypogastric arteries in the lower portion of the band. Thus the main difficulty in any operation for section of the band would seem to be in regard to the peritoneal processes and the portal circulation. The anastomosis which may exist between the internal mammary arteries and the intercostals in the integument in the upper portion of the band, of course would present no difficulty.

I will not venture upon any further remarks as to the surgery of the case, while there are so many distinguished gentlemen present more competent than myself to give an opinion. At the same time, operations on the peritoneum may not be considered so hazardous in this day, when ovariotomy, gastrotomy, and even Cæsarian section, are so often performed. The peritoneum-pouches themselves would not present so great a difficulty as might be anticipated, under pressure and acupuncture, by which the sensitiveness of the structure might be so altered as to permit of a section. I was informed at Mount Airy that in Paris a surgeon had made the experiment of applying pressure upon the band, and it was reported the twins had fainted in consequence. I could not ascertain, however, whether this was from fright, design, or actual pain.

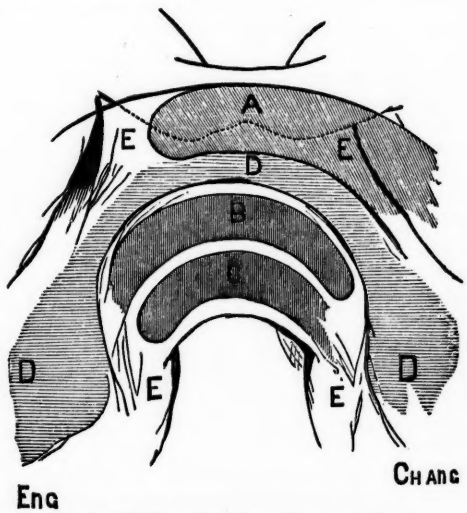
As Dr. Hollingsworth is present, it may be proper for me to mention a fact which that gentleman can corroborate, that Eng was the stronger physically and Chang was the stronger mentally. The same difference was observable in their characters. Chang was more irritable than Eng, especially since an attack of paralysis with which he had been afflicted, —this being in the side next to Eng. The latter had not only to bear with the irritability of his associate, but also to support one-half his weight. Among other peculiarities, Chang would sometimes break useful articles or throw them in the fire.

In conclusion, let me say that when I turned up the skin and superficial fascia of the H incision on the posterior part of the band, I was struck with the development and the strength of the abdominal aponeuroses. The fibres arched, interlaced, and developed into a strong fibrous band about a quarter of an inch wide, running around the median line, although there was no actual joint in the cartilage.

Prof. HARRISON ALLEN:

*Mr. Chairman:* I will probably best discharge the duty devolving upon me by at once proceeding to a somewhat more minute anatomical description than Dr. Pancoast has given, this being in accordance with the understanding between us in reference to the evening's exercises.

Perhaps it would be best to point to that simple diagram upon the blackboard before considering the subject more fully in detail. As Dr. Pancoast has informed the Fellows, there is a union of the twins at the two ensiform cartilages, which are very firmly joined in the centre, Eng's process being the more robust of the two. You will observe that there is a point of conjunction between the two processes which is not quite in the median line of the band. In the centre of the band is seen an elliptical space which suggests to the observer the presence of a synovial cavity. It is probable that the ensiform junction is of the character of a synchondrosis, with a median bursa-like sac; neither ensiform cartilage is ossified.




DIAGRAMMATIC REPRESENTATION OF THE BAND.

A, upper or hepatic pouch of Chang.
E, E (dotted line), union of the ensiform cartilages.
D, connecting liver band, or the "tract of portal continuity."
B, the peritoneal pouch of Eng.
C, the lower peritoneal pouch of Chang.
E, E, lower border of the band.

Below this point, in the diagram, you see a number of differently-lined tracks. The lower one (C),

immediately above the umbilicus, is only separated from the skin by a very delicate layer of tissue (so that, with the finger introduced into the pouch and moved, there is a decided indication of motion in the skin) on the under surface (E, E) of the band.

This pouch passes across the band from the abdomen of Chang, and is lost in the duplicature of the suspensory ligament of the liver of Eng. The finger passed upward to the band from the abdomen of Eng crosses the band above the pouch just mentioned, and is lost between the layers of the suspensory ligament of the liver of Chang. When the significance of the round ligament at the free border of the suspensory ligament is remembered, the relations of these pouches directly suggest that they have had essential bearings to the umbilical vein of the funis, and may be provisionally termed the *umbilical pouches*.

Above Eng's pouch (B), and between it and the under surface of the ensiform conjunction, is a second pouch (A) prolonged from Chang's abdomen, which fairly reaches the peritoneal cavity of Eng, but is not continuous with it. Extending up into this pouch from Chang's abdomen is a process which suggested to the Commission the possibility of the transit of hepatic vessels. This view was rendered more probable from the fact that a similar process passed up into the band from the liver of Eng. Accordingly, the plaster injection, colored by ultramarine, was thrown into a tributary of the portal vein of Chang, when it was observed that the fluid passed freely into the liver of Eng, as well as into some of the mesenteric veins proper. It is my own hypothesis that this bond of union (D) was the true hepatic tract; but in its present state, in the absence of evidence of any parenchymatous admixture about the vessels thus crossing the band, we prefer to denominate the transit as the *tract of portal continuity*.

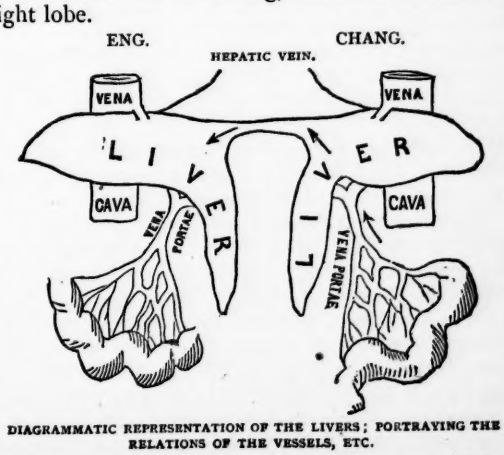
In the fœtal condition it is very likely that this large space (A), the upper pouch, now continuous with the abdomen of Chang only, was entirely occupied by true liver-tissue, which, as maturity was attained, became smaller, and left an empty space. Hence I propose to call this upper pouch the *hepatic pouch*. The contraction chanced to be greater on Chang's side, in harmony, it may be, with other evidences of a weaker and less developed type, which is so apparent in many of the tissues of Chang. Now, with reference to the demonstration. As Dr. Pancoast has already informed you, the incisions in the abdomen were made in rather an exceptional manner. By reference to the parts it will be seen that the incision in either individual was located in such a way as to avoid the median line, since it was supposed from the peculiar position of the umbilicus that the remains of the hypogastric arteries would be found extending from the fundus of the bladder upward and inward along the entire length of the anterior wall of the abdomen. Besides, this incision would enable us, by continuing from below upward, to fairly open the abdomen and examine the cord, without violating the conditions by which the Commission was bound. The flap comprises the greater part of the abdominal wall, and can be best observed, from the position of the bodies on the table, in that of Eng.

You notice that the tissues are well supplied with fat; and this condition is very plainly in contrast with that of Chang. Eng's side of the band is well nourished; Chang's end of the band presents an entirely different aspect. Chang was an invalid, and the weaker half of this organism, with less strength in the abdominal walls, and in every way less tissue, than was possessed by Eng. You can mark that distinction very plainly in the two halves of the band, proving, if we had no other means of proof, that there could not be any very intimate communication of the vessels between the two.

The first point worthy of notice is that of an isolated mass of adipose tissue, evidently sub-peritoneal, which is in the position of the usual umbilicus, namely, in the median line of the abdomen, about half-way up the anterior wall. This is strictly symmetrical, a similar point of about the same size being found in Chang.

Another fact equally well pronounced is that in Chang the bladder was found very much contracted and contained no urine; it was deep down in the cavity of the true pelvis. That of Eng, however, was distended with urine: hence there was a contrast in the appearance of the umbilical fold in the two individuals, in consequence of the great difference in the actual size of the bladders.

My finger is now in the *umbilical pouch* of Chang (C). The motion is noticeable in the under surface of the band. On the side of Eng no such motion will be observed. I can very clearly see my finger passing between the two folds of the suspensory ligament. At this point it would perhaps be well to exhibit the drawings which have been made of the views which we have been able to obtain from this very limited incision. On looking up towards the band with the greatest possible stretch of tissue, we see the arrangement of the remains of the hypogastric arteries converging towards the bond of union. In this lower diagram we show you the livers joined by what is supposed to be the *tract of portal continuity*. You will observe the limits are somewhat symmetrical. Here is the liver of Chang, with a foreshortened right lobe.




DIAGRAMMATIC REPRESENTATION OF THE LIVERS; PORTRAYING THE RELATIONS OF THE VESSELS, ETC.

The arrows show the directions in which the injection passed from Chang to Eng.

The remainder of the right lobe is deep within the abdomen, and of course it has not been seen. Here is the fundus of the gall-bladder, and there the suspensory ligament, carrying the remains of the umbilical vein. When the finger is passed from Chang into Eng, it is received between the folds of the suspensory ligament of Eng. In Eng, the parts are essentially the same, although you see more evidence of adipose tissue. Here is a little ligament aiding in the support of the liver, to whose convexity it is attached; it is not seen in Chang at all. You might term it an accessory suspensory ligament. When the finger is introduced behind the pouch, it is observed to terminate blindly, showing, we think, that it is adventitious, due to the presence of that suspensory ligament.

We find some vessels of the portal system, even as far down as the mesentery, well filled with the blue coloring-matter. We of course desired, as far as possible, to examine all the tissues here by these incisions: hence it was that when the bodies were in this position the skin was taken off from the wall in order to get a view of the linea alba.

[The bodies were here inspected by the audience, and afterwards turned so as to expose the posterior part of the band. Further remarks apply to this posterior aspect.]

Dr. PANCOAST: While the bodies are being turned, I will take the opportunity of replying to one or two questions which have been asked me. First, in regard to the common sensibility of these individuals. According to the statements we received at Mount Airy, there was a line of common sensibility corresponding to the median line of the band. Dr. Hollingsworth says that if a pin were stuck into the band at the median line, both of the twins would feel it distinctly; but that, even at a slight distance to either side, the point of the pin produced an effect only on the twin of that side.

Another question has been asked me, as to whether either of them was ever put separately under the influence of an anæsthetic. I answer it by saying that so far as we know it never was attempted, but that when, upon the final occasion, Chang was anæsthetized by death, Eng was for a time unaffected. The story as told us at Mount Airy was that Eng waked up and asked his son, "How is your Uncle Chang?" The boy said, "Uncle Chang is cold—Uncle Chang is dead." Then great excitement took place. Eng commenced crying out immediately,—saying to his wife, whom they called in, "My last hour is come," and finally sank away. He was in perfect health when they went to bed.

They had been sitting up in a large double chair, made for their accommodation. Eng was smoking his pipe, until he became sleepy, and finally said to Chang, "We must retire." Chang said that he could not lie down comfortably. I understand that when they went from Chang's house to Eng's house [see editorial], where they died, it was against the direction of Dr. Hollingsworth; but with their usual stubbornness they persisted in riding the distance in an open buggy. To return to the narrative of the night of their death, after Chang had refused to lie down, they walked about the house for some time, and even went out to the porch, and washed their hands and drank some water. It was about one o'clock when they went to bed. Then Chang died, some time between that and morning; his death not producing any immediate impression on Eng. It was only when the latter woke up and inquired about the condition of his brother, that he was at all affected.

As to the question, "What caused Eng's death?" I am not able to tell. The post-mortem which has been made does not show the condition of his lungs. Probably the valves of his heart were in a disorganized condition, and probably also the shock upon that weakened organ caused death.

Dr. ALLEN: In my opinion, Chang died of a cerebral clot. From inquiry at his home, I was led to believe that the lung-symptoms were not due to pneumonia; indeed, were not severe enough to have been so caused. The suddenness of the death, the general atheroma of the arteries, and the fact that there had been previously an attack of cerebral paralysis, all indicated that the death was of cerebral origin. Eng probably died of fright, as the distended bladder seemed to point to a profound emotional disturbance of the nervous system, the mind remaining clear until stupor came on,—a stupor which was probably syncopal. One thing to be settled in the making of our examination was to get the bodies in the best possible position, so that we could judge of the true nature of the band.

You will observe the great contrast between the anterior appearance of the band and its posterior aspect. When we suspended them face to face we conceived we had them in the proper position for study. On the posterior side there was a fold underneath the skin extending from the ensiform cartilage of Chang, passing over, crossing the median line, and inserted into the ensiform cartilage of the opposite twin, Eng. It was one of the objects of the examination to determine what was the nature of this fold. I judge it to be the linea alba; but I leave the Fellows to decide that for themselves. I will also add that, because we had not the privilege of cutting the anterior portion of the band, we were obliged to cut down from the point of which I have spoken to get to the structure, and demonstrate these *culs-de-sac* from behind.

Here (referring to the casts), from this point the incision is horizontal about midway, and joined laterally by two oblique lines which were directed one upward and the other downward and outward, making a modified letter-H incision. Thus we got all the space we needed. When I raise the skin, we see the scar of the umbilicus in the superficial fascia; and on lifting the other flap we get a better general demonstration.

And now we come upon the point of interest, namely, the position of the band and its true nature. We have a diagram here. You notice on Chang's side that there is an arrangement of interlacing aponeurotic fibres, marked here; and these fibres, starting in Chang, pass across the median line and are inserted into the ensiform cartilage of Eng.

Turning the lower flap downward, the upper flap upward, and the two lateral tongues outward, the superficial fascia is exposed. This is abundantly supplied with adipose tissue on either side, but is free from fat where it covered the band. Both the lower flap and the fascia are lost in the scar marking the position of the umbilicus. The same dissection exhibits the position of the lower pouch of Chang. Turning down the external oblique, the two recti, and the internal oblique muscles, the transversalis was exposed, the latter forming a very well-defined layer in Eng, with an interval between the ensiform cartilage and the inferior margin of the thorax. These were much less marked in Chang.

Turning forward this layer of fibres in Eng from without inward, the diaphragm is brought into view. Muscular fibres are conspicuous in this position. The peritoneum on either side is now fairly exposed. Incisions may now be made with a view of demonstrating the pouches of the band. The upper pouch of Chang is, you will observe, freely opened on its posterior aspect, and the vessels in the tract of portal continuity are seen to be well distended with the injecting fluid. A small artery is seen crossing beneath this tract of veins, and is probably a branch of the hepatic; but, whatever may be its origin, it evidently could have little effect in influencing the nutrition of parts beyond the band, and is probably retained within the band itself. The lower pouch of Chang reveals nothing which was not demonstrable from in front, and the same may be said of the single pouch of Eng; thus confirming our opinions of the construction of the band before the pouches had been opened from behind.

Dr. Abraham Jacobi, of New York, being called upon, said: I am very much obliged to the gentleman who has mentioned my name. I do not believe, Mr. Chairman, that I have anything to add to the stock of knowledge in regard to the subject before us. If I were to answer the question as to how this monstrosity originated, especially whether they became connected after having been separate organisms, I should say that that idea has been given up by those whose opinions are entitled to weight. It is true that years ago such specimens were spoken of by Dalton in Holland; and a number of others have alluded to the idea that two such individuals might in embryonic life become united simply by adhesion, the result of their being located together in the embryo. In truth, it appears to me that at that period such a thing might be possible; but of course the union would be a superficial one, not involving the deep organs.

We know that the first epidermis is formed about the end of the fifth week of embryonic life, and that after a time it is thrown off, so that the embryo of about seven or eight weeks is more loosely covered with the real epidermis than in the earlier period. The epidermis is thrown off a number of times until about the fourth month of utero-gestation, when it is finally perfected and remains intact. Now it is suggested that at those times when the epidermis is thrown off the connection takes place between the two individuals,—just as the connection takes place between the prepuce and glans, which we so often find adherent in the fœtus and in a number of new-born children.

There are evidences, which we cannot forget, that such connections have taken place before the final epidermis is formed, and about the time one of the earlier coverings is being thrown off, at a period when the internal organs, frequently implicated in such monstrosities, are already formed. There are few double monstrosities so well developed as this one. I think the records of about four hundred monsters have now been collected in the books and journals; but very few are of such a complete nature as this. Every one has heard of the Hungarian Twins, who lived to the age of twenty-one years, in the last century. Another pair of female twins, that travelled in Germany about two years ago, were described at the time, in the *Berliner Wochenschrift*. They were of a similar nature. There are two cases on record in which a division has been successfully attempted, but in those cases the connections were not so well developed as in the Siamese Twins. The connection was in the same neighborhood, but was only superficial,—of skin and subcutaneous tissue. One of the cases is recorded by Dr. Braun (*Virchow's Archiv*). Fortunately, or unfortunately, I do not know which, they were his own children. They were of the female sex. He separated them immediately after birth. One lived three and a half days; and when the case was described in 1866, the other was five years old. In that instance the connection—three and a half inches long—extended from the ensiform process to the umbilicus. The other case is described as early as 1689, by the old German author Kernoch.

As far as the origin of twin monsters is concerned, I am certainly of those who are not of the opinion that two individuals could get into such an intimate connection by growing together. Certainly the connection is an original one. I believe that the general opinion is now that one Graafian vesicle may have two ova, or one ovum have two nuclei; and these finally may, like the two vitelli of an egg, be closed together, surrounded by the same material, forming a single complete ovum; and thus it may be that the two are included in the same ovum. I think that this will explain also why the sex is always the same,—why they are always both male or both female. They are male in twenty or twenty-five per cent. of the cases.

Dr. H. C. Wood here asked Dr. Jacobi a question in regard to the Biddenden Sisters [an account of whom will be found in another column of this journal], as to whether they had been reported in the works on monstrosities.

Dr. Jacobi. I do not know anything about that.

Dr. Pancoast stated that an account of those sisters was contained in a semi-popular book entitled "Lexicon Tetraglotton," published by Samuel Thomson, London, 1660.*

* The Editor of the *Times* is indebted to Dr. Pancoast for an opportunity of inspecting the work. The account of the Biddenden Maids is precisely that contained in the circular printed in another column, though in a somewhat different shape. The account is in a single sheet, and is evidently not a part of the original book, but has been pasted in it. In appearance it equals the body of the work in age, as shown by the color and condition of the paper; but of course it is impossible to decide with any accuracy when it was put in the book.

None of the Fellows desiring to say anything further upon the subject, on motion, the College adjourned.

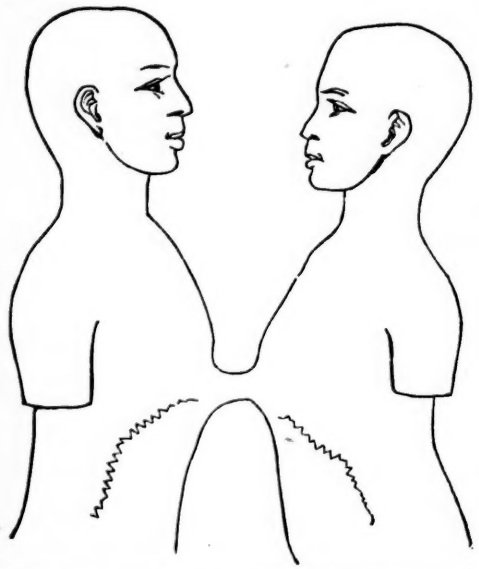


DIAGRAM FROM A CAST SHOWING THE POSITION OF THE LIGAMENT, AND OF THE PRIMARY ANTERIOR INCISIONS.

During life the twins never assumed the face-to-face position in which they are here represented, and which is without doubt that of their fœtal life.

## STATEMENT.

*Statement of Eng's widow, made to the Commission at Mount Airy.*—The paralytic stroke from which Chang had suffered occurred about three years ago, when he was at sea, seven days out from Liverpool. He had been intemperate for some time previously, and had been drinking hard on board the vessel, being frequently intoxicated. He had never had mania à potu. Even when he was drunk, Eng was not affected. Two of his children had died; one from phthisis, the other apparently from apoplexy. Eng had lost five children: one each from phthisis, diphtheria, and dysentery, one from the effects of a burn, and one still-born.

Chang died Saturday, January 17. He had had a cough since the preceding Monday night. It was dry, with scanty, frothy sputum and no pain. Left lung probably involved; slight dulness on corresponding side. On Thursday, January 15, his skin was acting freely, and for that reason Dr. Hollingsworth ordered him not to venture out; but, in spite of that prohibition, he went as usual to Eng's. At the time of his arrival he had little cough and no expectoration, but loud bronchial râles were plainly heard by those around him.

When Eng saw his wife after learning that Chang was dead, he said, "I am dying," but did not speak of his brother's death. He soon afterwards expressed a desire to defecate, and this continued for half an hour. He rubbed his upper extremities, raised them restlessly, and complained of a choking sensation. The only notice he took of Chang was to move him nearer. His last words were, "May the Lord have mercy on my soul!"

## TRANSLATIONS.

### CHLORAL AS AN ANTISEPTIC.

DUJARDIN BEAUMETZ and Hine state (*L'Union Méd.*, 1873, Nos. 62 and 63) that if pure albumen, muscular tissue, or urine is mixed with a solution of hydrate of chloral of the strength of at least one per cent., and placed under conditions favorable to putrefaction or fermentation, neither of these changes takes place.

They think that they have further established that this property of the solution named is due neither to the development of chlorine nor of hydrochloric acid. They made use of a similar solution as an external application, and also as an injection in various affections. They think that it had a favorable influence upon gangrenous sores, phagedenic chancres, and ulcers which had a tendency to spread into surrounding tissues. For cancerous ulcerations a somewhat stronger solution was employed: two per cent., and even more.

They recommend the use of the same solution for the injection of serous cavities,—*e. g.*, the chest in cases of pleurisy with a secretion of pus,—and also for use in affections of the bladder attended with decomposition of the urine.

### HEMICRANIA CURED BY LOCAL DEPLETION.

DR. HAMON (*Bulletin de Thérapeutique*) gives an account of a case of right hemicrania occurring in his practice, which was successfully treated under the following circumstances:

The patient, a gentleman thirty-five years of age, and enjoying good general health, had been suffering for some eight months with frequently-recurring neuralgic attacks.

For some time these attacks were kept under control by subcutaneous injections of chlorohydrate of morphia ($\frac{1}{6}$th grain); but this agent finally seemed to lose its power, and, even when combined with valerianate and sulphate of quinia and administered by the mouth, failed to give relief. Dr. Hamon then had recourse to local depletion. Some five ounces of blood were abstracted from the patient's right malar region by means of the mechanical leech. The improvement in the neuralgic symptoms was immediate and complete; the pain disappeared, and after the lapse of some months had not returned.

WILLIAM ASHBRIDGE, M.D.

TEMPORARY ALBUMINURIA THE RESULT OF COLD BATHING (*The Lancet*, December 6, 1873).—Dr. George Johnson reports four cases in which, after protracted cold baths, albumen appeared in the urine for periods varying from a few hours to several weeks. The albuminuria was probably caused by repeated and prolonged immersion in cold water, which, by repressing the cutaneous secretion, may possibly lead to permanent mischief and to structural degeneration of the kidney.

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## EDITORIAL.

### CHANG AND ENG.

IN the present article it is not purposed to give an elaborate history of these famous twins, but only to put on record certain well-ascertained facts of physiological interest in regard to their life, to give all that can be ascertained as to the circumstances of their death, and to offer a brief history of the manner in which their bodies were brought to Philadelphia.

Chang and Eng Bunker were born in Siam, in the year 1811, but lived for many years in North Carolina, where they were married, and raised large families of children, Chang being the father of ten, Eng of nine. Dr. Joseph Hollingsworth, to whom we are indebted for the information given in this article as to their habits of life and the circumstances of their death, states that he has known them as residents in the neighborhood of Mount Airy, North Carolina, for some twenty years, during which time he has acted as their family physician. Chang, who is said to have derived his name from the Siamese word for "left," was the left of the pair, and was much smaller and more feeble than his brother Eng, whose name signifies "right." Their habits were very active: during the latter part of their life they and their families lived in two houses, about a mile and a half apart, and it was an inflexible rule that they should pass three days alternately at each house. So determinedly was this alternation maintained that sickness and death in one family had no effect upon the movements of the father, and a dying or dead child was on one occasion left in obedience to it: indeed, Dr. Hollingsworth is very positively of the opinion that the death of the twins themselves was the result of this rule, or, at least, was materially hastened thereby. This will be made apparent hereafter.

The evidences during life that the twins were physiologically distinct entities were very numerous and apparent. They were different in form, tastes, and disposition; all their physical functions were performed separately and unconnectedly. What Chang liked to eat, Eng detested. Eng was very good-natured, Chang cross and irritable. The sickness of one had no effect upon the other, so that while one would be suffering from fever the pulse of the other would beat at its natural rate. The twins not rarely suffered from bilious attacks, but one never suffered at the same time as the other; a circumstance which seems somewhat singular in view of the close connection which the post-mortem has shown to exist between the livers of the pair. Chang drank pretty heavily,—at times getting drunk; but Eng never felt any influence from the debauch of his brother,—a seemingly conclusive proof that there was no free interchange in their circulations.

The twins often quarrelled; and of course, under the circumstances, their quarrels were bitter. They sometimes came to blows, and on one occasion came under the jurisdiction of the courts. After one of these difficulties Chang and Eng applied to Dr. Hollingsworth to separate them, stating that they could not live longer together. Eng affirmed that Chang was so bad that he could live no longer with him; and Chang stated that he was satisfied to be separated, only asking that he be given an equal chance with his brother, and that the band be cut exactly in the middle. But as Dr. Hollingsworth advised very decidedly against this, and declined to interfere, cooler counsels prevailed.

In August, 1870, Chang suffered from a paralytic stroke, from which he never fully recovered; and during the last year of his life he several times said to Dr. Hollingsworth, "*We* can't live long."

On the Thursday evening preceding their death, the time having arrived for their departure from the house at which they were staying, the twins rode a mile and a half in an open wagon. The weather was very cold,—the night being the severest of the winter. Chang had been complaining for some days of cough, with distress and actual pain in the chest. He was so unwell that his wife thought he would be unable to bear the trip; but he finally went. On Friday morning Chang reported that he felt better, but that in the night he had had such

severe pain in the chest, and so much distress, that he thought he should have died.

The twins slept in a room by themselves or with only a very young child present; and some time in the course of Friday night they got up and sat by the fire. As they were accustomed to do this frequently, nothing was thought of it by those of the family who saw them, even though they heard Eng saying he was sleepy and wanted to retire, and Chang insisting on remaining up, stating that his breathing was so bad that it would kill him to lie down. Finally, however, the couple went to bed again, and after an hour or so the family heard some one call. No one went to the twins for some little time, and, when they did go, Chang was dead, and Eng was awake. He told his wife that he was very "bad off," and could not live. He complained of agonizing pain and distress, especially in his limbs. His surface was covered with a cold sweat. At his request his wife and children rubbed his legs and arms, and pulled and stretched them forcibly. This was steadily continued until he went into a stupor, which took place about an hour after the family were alarmed. The stupor continued up to death: according to the statements of the family, there were no convulsions.

Dr. Hollingsworth did not reach the house until after the death of both of the twins. He found the wives, and especially the children, averse to any post-mortem being made, but, after much persuasion, obtained permission to put the bodies in a position to be preserved until he could obtain some one from Philadelphia to perform the autopsy. He placed the bodies, after they had been thoroughly cooled, in a coffin, which was put in a wooden box, which was, in its turn, enclosed in tin; the whole being buried in a dry cellar in such a way as to be imbedded in charcoal.

As bearing upon the question, What was the cause of the death of Chang? it is important to state that Dr. Hollingsworth had repeatedly told Chang and Eng that, in his opinion, the death of one did not necessarily compromise the life of the other; that he could separate them, by cutting close to the body of the dead one, without killing the living one. It would appear possible, in view of this, that the death of Eng was not simply the result of fright.

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SHORTLY after the death of the Siamese Twins, Dr. William Pancoast requested the Mayor of Philadelphia to telegraph to the Mayor of Greensboro', North Carolina, in regard to the possibility of a post-mortem examination being obtained. To this the Mayor of Greensboro' substantially replied that he had neither knowledge nor power in the matter. When Dr. Hollingsworth, *en route* North, arrived at Greensboro', the telegram of Dr. Pancoast was handed to him. On the evening of his arrival at Philadelphia (Friday) he saw Dr. Pancoast and Prof. Gross, and a letter was written to the wives of the twins, proposing that Dr. Pancoast should come on to embalm and examine the bodies.

On Sunday Dr. Hollingsworth saw Prof. John Neill, and, on consultation, it was concluded that the matter was of public importance, and should not be confined to any single private individual. As the promptest method, it was deemed best to call a meeting of such physicians as were interested in the matter and could be hastily got together.

The meeting took place on the evening of Monday, January 26, 1874, at the house of Dr. Neill; but, although a number had been asked, only Prof. Leidy and Dr. Ruschenberger, besides Drs. Hollingsworth and Neill, were present at the conference. As the result of their deliberations, it was determined that two gentlemen should be at once dispatched to the homes of the twins, in order to examine and embalm the bodies as speedily as possible; and it was agreed that Drs. William H. Pancoast and Harrison Allen should be requested to go.

It will be seen at once that the College of Physicians was in no wise responsible for the acts of the Commission, although its name was freely used by the prominent Fellows engaged in the transaction. Indeed, these gentlemen, recognizing this, were prepared to meet the expenses of the trip had the College failed to endorse their action.

Owing to various obstacles and embarrassments, the Commission did not leave the city until Thursday night, January 29. At the request of Dr. Pancoast, Dr. Andrews went with the party as a companion and aid.

The Commission arrived at Mt. Airy on the evening of Saturday, January 31, and proceeded to the residence of Eng the following morning, in company with a photographer and Dr. William Hollingsworth, who is the family physician in the absence of Dr. Joseph Hollingsworth. The widows of the twins received the Commission hospitably, and a conference was at once entered into, at which the "Mistresses" Bunker, the Commission, Dr. Hollingsworth, and the widows' legal adviser were present. It was then agreed that, under consideration of embalming the bodies of the twins, permission would be granted to exhume and examine the structures distinguishing them, provided that no incisions should be made which would impair the ex-

ternal surface of the band. Subsequently it was agreed that limited incisions would be allowed on the posterior surface of the band. An agreement in writing was then drawn up, expressing the above restrictions, but extending authority to the Commission to remove the bodies to Philadelphia, provided that they be kept there in a fire-proof building, and held subject to the commands of the families when informed of the completion of the embalming process.

The object of the visit of the Commission, having been noised about the country, had attracted a crowd of curious people, who were willing enough to give the necessary aid in exhuming the bodies. The circumstances attending this were briefly as follows. The bodies were buried in the cellar of Eng's house, in a shallow grave, which had been covered with a tumulus of powdered charcoal. This being removed revealed several planks covering an outer wooden box, which, in turn, enclosed a tin encasement to the coffin. After unsoldering the tin box, the coffin was carried to the second floor of the house, to a large chamber. The lid was unscrewed, and the object of the search of the Commission was exposed to view. It was certainly an anxious moment. Fifteen days had elapsed since death, and no preservative had been employed. It was an agreeable surprise, therefore, that no odor of decomposition escaped into the room, and that the features gave no evidence of impending decay. On the contrary, the face of Eng was that of one sleeping; and the only unfavorable appearance in Chang was a slight lividity of the lips and a purplish discoloration about the ears. The widows at this point entered the room, and, amid the respectful silence of all present, took a last look at the remains.

The room was then cleared of all not connected with the work of the Commission; the bodies were disrobed, and preparations at once begun to secure photographs. The bodies were held in an erect position, and negatives of the entire figures, and views of the band at short foci, were secured. The day being cloudy, much time was necessarily expended in obtaining these pictures,—time sufficient for a number of observations upon the external appearance of the bodies to be recorded. The notes are given just as they were taken at the time:

*Examination made Sunday, February* 1, 1874, *fifteen days and eight hours after the death of Chang.*

The bodies were found in the coffin in a good state of preservation; there was a slight cadaveric odor about Chang, with marked passive congestion of the back of the arms and neck on both sides, and in a less degree of the posterior aspect of the forearms, buttocks, thighs, and legs; there was none on the feet, where, however, there was marked fulness of the superficial veins; this was better marked on the left side. There was a greenish discoloration on the anterior abdominal wall.

*Face.*—Lips moist and discolored; peculiar reddish congestion sparsely distributed over malar prominence and beneath ear. The thoracic discoloration was much deeper on the side next to Eng.

The left nipple was visible in front well towards the middle line, the right one just showing. The fingers of the right hand—the paralyzed side—were forcibly flexed, although *rigor mortis* was absent.

In Eng there was passive congestion of back, most marked on buttocks and infra-spinous spaces—none on the front of the body; slight greenish discoloration of anterior abdominal wall.

In both subjects the hair of the head was gray.

On *the pubis* of each subject the hair of the *left side* was *gray*, that of the *right side*, *black*.

The process of embalming was now begun. Incisions were made to the outer side of the median line of the abdomen in each individual, extending from the inferior margin of the thorax to a point midway between the symphysis pubis and the anterior superior spinous process of the ilium. The aorta was reached after the usual method, but was found to be in an atheromatous condition, compelling the selection of the left primitive iliac for the insertion of the pipe. A solution of chloride of zinc was then injected.

After the embalmment had been completed, the incision was continued upward and inward towards the band. Examination of the band through this incision convinced the Commission of the complex nature of the band, and suggested the suspension of a complete study of the parts until removal of the bodies to Philadelphia. The fact that the photograph had been far from satisfactory strengthened the Commission in its decision to stop the investigation at this stage. The incisions were, therefore, sewn up, the clothing readjusted, and the bodies placed in the coffin and conveyed to Mt. Airy. Here the tin box which was used for the temporary burial was again brought into use, and the lid carefully resoldered. Without delay the Commission started on its return, expressing the bodies at Salem.

The Commission arrived in Philadelphia, February 5, having been absent one week.

Upon the arrival of the bodies at the College of Physicians, they were placed in the care of the committee upon the Mütter Museum and of the Hall Committee, and were closely locked and guarded until a special meeting of the College was called, upon Monday evening, February 8, when, after

considerable discussion, it was agreed that the College should accept the action of its Fellows and pay the expenses of the trip. Further, a vote of thanks was given to the gentlemen who went to North Carolina, and to Dr. Hollingsworth, and the Mütter Committee was authorized to appropriate three hundred and fifty dollars for the preparation of casts and photographs, which should remain the property of the Museum. Finally, the College appointed the Mütter Museum Committee and the original Commission (Drs. Pancoast and Allen) as a joint committee for carrying out the examination of the Siamese Twins; it being understood that a report and a demonstration of the specimens were to be made to a subsequent meeting of the College; also, that the dissections and the report were to be the work of the original Commission.

On Tuesday, the 10th instant, they were exposed for study: they were at that time found in a satisfactory condition, except the right lower extremity of Chang, which required immediate care to prevent further destructive changes taking place.

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## THE OLD SAD STORY.

WE learn from the London *Lancet* that Mr. Webb, editor of *The Medical Times and Gazette*, recently died suddenly at the age of forty-seven,—just at the time when brilliant professional success was coming to him,—leaving a widow and ten children to struggle through poverty, aided only by an annual income from settled property of about six hundred dollars a year. Surely it is a wrong system which brings remunerative labor only at an age when other men are thinking of the long rest that finally comes to all.

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WE have received an essay from its anonymous author entitled "Homocultology," in which it is proposed to cure the human flesh of ills physical, mental, and spiritual, by castration, so as to prevent the perpetuation of any but perfect types. We can only say that in this case we think "charity should commence at home."

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SIR SAMUEL BAKER asserts his belief that Dr. Livingstone is still alive. His speech before the Royal Geographical Society appears to have convinced Sir Henry Rawlinson and the Society that the probabilities are in favor of Dr. Livingstone's being still alive.

## THE BIDDENDEN MAIDS.

WE are indebted to Dr. Walter F. Atlee for a cake or cracker, about four inches long by two inches broad, which, with the circular that is copied below, was given him some years since by a patient who had lately come to this country from Biddenden, England. The man stated that the crackers were doled out year after year as directed by the will of the sisters, and as had been done regularly since their death. The circumstance is very interesting, as showing the way in which these old foundations are maintained in England for many centuries. Scientifically, the chief interest attaches to the fact that these two individuals, although so closely joined, lived for over thirty years. The union appears to have been more close than that between the Siamese Twins.

The cake is apparently a water-cracker, and is in the shape of a tomb-stone with a figure of the twins upon its face. This effigy represents two women joined together as in the accompanying wood-cut, clad in short, very low, tight-laced bodices, and hooped skirts, with gigantic mammæ, of singularly perfect workmanship, above the bodices. Over the figures is an inscription like that in a similar position upon the wood-cut here given. On the skirts of one of the figures is,—

IN
1100

on the other is,—

A
34
Y

Below the figures is the word "Biddenden."

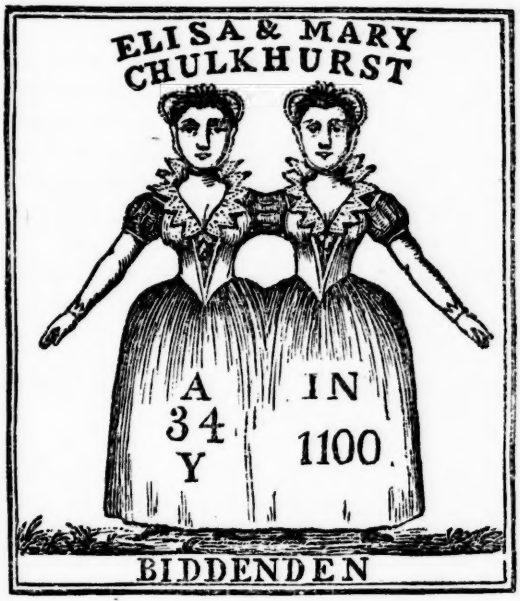
The wood-cut on our next page is a fac-simile of that upon the circular.

We have afforded this matter so much room in to-day's issue because, so far as we know, these ladies have not elsewhere figured in a scientific journal. As they were evidently covetous of posthumous fame, we doubt not that their manes will be most grateful to us for thus honoring them, after nearly eight centuries, during which they have waited for embalming.

We are informed that there is in existence a very old English book containing receipts and accounts of what are vulgarly known as "curiosities," in which these faithful sisters and fast friends are spoken of in detail. Unfortunately, we have not been able to obtain a sight of the volume.

We see no reason for doubting the authenticity of the record. The statement that the twins died within six hours of each other is strong internal

evidence of its truth, since an ignorant person making up an account would not be likely to conform so closely to the facts of experience.




A SHORT AND CONCISE ACCOUNT OF

ELIZA & MARY CHULKHURST,

WHO WERE BORN JOINED TOGETHER BY THE HIPS AND SHOULDERS,

IN THE YEAR OF OUR LORD, 1100,

AT BIDDENDEN, IN THE COUNTY OF KENT.

COMMONLY CALLED

THE BIDDENDEN MAIDS.

THE reader will observe by the Plate of them, that they lived together in the above state Thirty-four Years, at the expiration of which time one of them was taken ill and in a short time died; the surviving one was advised to be separated from the Body of her deceased Sister by dissection, but she absolutely refused the separation by saying these words,—"As we came together we will also go together," and in the space of about Six Hours after her Sister's decease, she was taken ill and died also.

By their Will, they bequeathed to the Churchwardens of the Parish of Biddenden and their Successors Churchwardens for ever, certain Pieces or Parcels of Land in the Parish of Biddenden, containing Twenty Acres, more or less, which now let at 40 Guineas per annum. There are usually made in commemoration of these wonderful Phænomena of Nature, about 1,000 Rolls with their Impressions printed on them, and given away to all Strangers on Easter Sunday after Divine Service in the afternoon: also about 300 Quartern Loaves and Cheese in proportion, to all the Poor Inhabitants of the said Parish.

## CORRESPONDENCE.

### EXCESSIVE FECUNDITY.

TO THE EDITOR OF THE PHILADELPHIA MEDICAL TIMES:

RECENTLY there have come to my notice the facts of a somewhat remarkable case,—that of a lady who had eight living children in the short space of two years, four months, and twenty-four days: three children born on the 8th of January, 1742, all of whom died on the same day; three children born on the 3d of March, 1743, all of whom died on the same day; two children born on the 1st of June, 1744, one of whom died on the same day, the other lived to be twelve years of age.

Yours truly,

T. H. ANDREWS.

PHILADA., Jan. 22, 1874.

INSOMNIA.—Dr. E. P. Hurd, of Newburyport, Massachusetts (*Boston Medical and Surgical Journal*), in his address before the New Hampshire Medical Society, states that he has found chloral hydrate especially useful in the insomnia of infants. One grain may be given to a restless infant every hour till sleep is induced. Gelsemium admirably fulfils many of the requirements of a hypnotic, for its action seems to be largely that of an exalter of sympathetic function, while it lessens cerebral congestion. Three drops of tincture of gelsemium, with three of laudanum and ten grains of bromide of potassium, every two hours, have succeeded in breaking up insomnolence when other remedies have failed.

TREATMENT OF ACUTE ARTICULAR RHEUMATISM BY MEANS OF IMMOVABLE BANDAGES.—In the *Archiv d. Heilk.*, Heft 5, 1873, Dr. Oehme relates his experience of the above means of treatment in forty-five cases of rheumatism. After comparison with various means of treatment employed in forty-five other similar cases, Dr. Oehme stated the following results in favor of the bandage system: 1. The pain is considerably lessened; 2. The duration of the fever is much shortened; 3. The duration of the whole attack is considerably abbreviated.—*London Lancet.*

POISONING BY THE ACID PERNITRATE OF MERCURY (*The Lancet*, January 3, 1874).—H. Stanley Gale reports a case of lupus of the cheek with red and soft but non-ulcerating tubercles, in which the pernitrate of mercury was applied over a space not larger than a florin. The pain caused was excessively acute. In about ten hours there came on a sudden, profuse vomiting of yellowish matter, together with griping and purging, the motions being streaked with blood. There were also cold sweats, with a sense of constriction about the pharynx. The pulse was small, and only 56. The vomiting was increased even by the use of ice, and came on every five or ten minutes for three hours, after which there was a tendency to sleep, and the symptoms gradually diminished in severity. The patient was a strong, healthy man, in the prime of life.

A NEW SYMPTOM OF BROMISM.—Dr. Hayden records (*Irish Hospital Gazette*, February 2, 1874) green vision as having been caused by bromide of potassium in a case under his care.

## REVIEWS AND BOOK NOTICES.

DISEASES OF THE EAR, INCLUDING THE NECESSARY ANATOMY OF THE DIFFERENT PARTS OF THE ORGAN IMMEDIATELY PRECEDING THE CONSIDERATION OF THE DISEASES OF THESE PARTS. By A. D. WILLIAMS, M.D., formerly Lecturer on Otology in the Miami Medical College, St. Louis, Mo. 8vo, pp. 290. 1873.

The fresh impetus imparted to otology by the introduction of Tröltsch's mirror, and the rapid progress being achieved in this branch, are shown by the numerous works relating to this subject that are constantly appearing. The past year has been a very prolific one in otological literature: a fifth edition of Tröltsch, comprising nearly 550 octavo pages, has appeared, and St. John Roosa, Weber-Liel, Keen, and Dalby have each issued during the past year respectable-sized tomes upon diseases of the ear. To this list must be added a number of lesser lights,—authors ambitious to erect unto themselves monuments more enduring than brass by audaciously adding to the already vast bulk of otological literature. New methods of investigation and treatment are being constantly instituted in this, until so recently, much-neglected branch. Let not the general reader, however, for one moment suppose that all of these recent publications are issued upon such justifiable grounds, or that they are always based upon extended clinical observations. It is remarkable what a sameness not only of matter but also of manner he will find in many of them, reminding him forcibly of what has been aptly styled "rehash." Certainly, much of his reading will strike him as being stale, flat, and unprofitable. It is the old story, "Of making many books there is no end:" fortunately, their perusal does not always entail the "much study" which is "a weariness of the flesh."

This book of Dr. Williams is one of the latest accessions upon our table. Being prefaced as representing "particularly Western ideas," and claiming to be the pioneer work on diseases of the ear of "the Great Mississippi Valley," we have read the entire book with avidity, in the illusive hope of discovering in what manner Western ideas upon otology differed from our own stereotyped notions; in the hope of finding something characteristic of Western energy,—some new idea really worthy of the Great Mississippi Valley, that destined centre of American wealth and culture. Alas for great expectations! The book, lacking in thoroughness and original research, has, like the surface of that great valley, a decided tendency to flatness.

The "necessary" anatomy of the different parts of the organ with which the author prefaces the consideration of the diseases of the several divisions of the ear, though in the main correct, is surprisingly limited in quantity, and we doubt whether the veriest student's compendium would be found containing less.

Tenotomy of the tensor tympani muscles is spoken of as a possible means of relieving the tinnitus aurium so frequently attending the dry catarrhal inflammation of the middle ear. But it is very evident that this operation has not yet been attempted, as might be expected in one so manifestly conservative in his practice, hesitating to use mild astringent or alterative injections; who even points out (p. 123) the danger of forcing air into the cranial cavity (!) by forcibly inflating the drum.

The author avoids applying blisters behind the ear in children, having several times received "anything but *benedictions* from the mother." 'Tis a pity that all patients or their friends do not see the propriety of heaping "benedictions" upon those who cruelly torture them with blisters over the mastoid process, where they are usually as efficacious as huge bill-posters upon a dilapidated wall are in preventing its ultimate destruction.

The colored lithograph is frightful: "opacification" of the membrane by inflammatory deposits, and of the text by careless proof-reading, are alike objectionable.

As to selecting this book,—to those who have the inclination to possess but a single thorough treatise upon the diseases of the ear, our advice is similar to that given by Punch to the young man with his matrimonial schemes: "Don't." R. M. B.

THE ANATOMIST'S VADE-MECUM. By ERASMUS WILSON, F.R.S. Edited by GEORGE BUCHANAN, A.M., M.D., assisted by HENRY E. CLARK, M.R.C.S. Ninth Edition. Philadelphia, Lindsay & Blakiston, 1873.

Wilson's Anatomy has for many years been a favorite text-book with students, and it is not likely to lose ground by the appearance of this last edition. Professing to be merely a compendium and a guide-book for the student or the busy practitioner, and not laying claim to the rank of a complete treatise on anatomy, it yet contains nearly all the facts in connection with the construction of the body which are necessary in the diagnosis and treatment of disease. Much new material has been added, many passages completely rewritten, a number of fresh wood-cuts inserted, and, with a few unimportant exceptions, the book has been brought up to the level of the present day.

## GLEANINGS FROM OUR EXCHANGES.

MANIPULATION IN THE TREATMENT OF SPRAINS (*New York Medical Journal*, January, 1874).—Dr. William R. Fisher reports the following interesting case:

A young woman fell from the top of a step-ladder and severely sprained her right ankle. The local application of ice and other antiphlogistic treatment enabled her at the end of ten days to make a short journey to her home. This was, however, followed by increased pain, swelling, and inflammation, which were again subdued by rest and cold dressings. During the next three months her foot improved slightly under the use of stimulating liniments; but by another fall she lost what little had been gained since the first accident. Iodine and frictions with camphorated oil reduced the pain and swelling and increased the motion at the ankle-joint, but this articulation remained weak and painful whenever use was attempted, and a point just below the external malleolus was exquisitely sensitive to pressure or upon motion. Five months after the original accident she entered a hospital; absolute rest in bed was enforced for two months, but when she got up her foot and ankle proved to be as useless as before, and her general health was decidedly impaired.

Galvanization, repeated blisters, and uniform pressure with wet sponges, as well as quinine, iron, and similar remedies, were all unproductive of any permanent good; and finally it was resolved to submit her to the treatment by manipulation. At this time she could walk a little upón crutches, using her left foot alone to receive her weight; there was an œdematous puffiness about the right ankle almost obliterating the malleoli; the foot had a bluish, dusky hue throughout, arising from a want of active circulation; the temperature of the right leg and foot was lower than that of the left. Pressure over the instep caused a soreness, along the skin below the external malleolus a sharp, darting pain. Passive movement at the ankle in the direction of flexion or extension, and especially lateral motion inward, excited the same sharp pain. Voluntary move-

ment was confined to the toes, and even there, required considerable effort for its performance.

The repeated attacks of acute inflammation in this case had probably been the cause of its long duration, and had resulted in the formation of an unusually large amount of plastic exudation and fibrinous adhesions. The indications all pointed to the sluggish circulation in the ankle and foot as the chief obstacle to improvement.

Treatment was commenced by a general kneading and shampooing of the limbs and body until the patient had become used to the process, but after a few days the manipulations were performed as follows: The whole limb from the knee down was first rubbed and kneaded for twenty minutes, lightly where the parts were tender, forcibly where the pressure was well borne. The skin was sponged with water and dried with a towel whenever the epidermis became dry and heated by the friction. The toes were passively exercised in various directions, and the ankle-joint was flexed and extended; the extent of movement being governed by the amount of pain it produced. These manœuvres occupied about five minutes, and were followed by the kneading and frictions a little more forcibly administered, which in turn gave way to the passive movements until the whole had continued for an hour and twenty minutes. At its termination there was a decided increase of motion and diminution of pain. This was repeated daily, the movements of the joint being gradually increased in force and length of the application, while the kneading and frictions were lessened.

On the seventh day of treatment, passive motion of the joint was free in every direction and entirely painless; the adhesions had all given way as the force of the manipulations had been increased, snapping audibly one after the other; the foot was warm, there was no puffiness, and she was able to wear the same-sized shoe on the right as on the left foot. After twenty-one days of treatment, she gave up crutches altogether, and four days later she went to the sea-shore. Since then her progress has been steady, and she is practically cured.

Dr. Fisher believes that of all the means which are recommended for the treatment of sprains, manipulation is the simplest, the easiest in application, and the most efficacious. Quoting from M. Bizet, he says, "The cure by manipulation is the more prompt and certain in proportion as the remedy follows upon the accident, and it may be wrought both in simple and in complicated sprains, except in the case of fracture of the articular extremities."

TRANSFUSION OF BLOOD (*The British Medical Journal*, January 10, 1874).—Henry M. Madge, M.D., considers in detail the various forms of transfusion now in vogue which have been attended with the greatest success:

*Transfusion with defibrinated blood.*—The great advantage of this form is that there is no fear of clotting. The balance of scientific opinion is in favor of the theory that fibrin as it exists in venous blood is a waste product, and that the real revivifying element is the oxygen contained in the red corpuscles; but, be this as it may, the real reason for getting rid of the fibrin is that it interferes with the operation.

The blood must be carefully whipped with a *clean* fork, stick, or glass rod, and strained through fine linen two or three times. In the instruments which have been devised for using defibrinated blood, the great aim seems to have been to prevent air from entering the veins; but no special apparatus is necessary, and a common syringe has often been used with success.

2. *Mediate transfusion with pure blood.*—The advocates of this plan maintain that fibrin is an essential element of the blood,—that it favors coagulation, helps to build up the tissues, and that when its removal is attempted there will always remain small particles or shreds which may produce pyæmia or embolism. It is certainly true that in many cases of recovery from impending death, after transfusion with defibrinated blood patients have died in a few weeks from pyæmia; but of course this may have arisen from various other causes.

With pure blood, however, clots are apt to form and block up the instruments; and, what is of more consequence, small clots may enter the vein, and lead, like carelessly defibrinated blood, to pyæmia and embolism.

Until recently it was thought important that a high temperature should be maintained to prevent coagulation; but it is now known that that process is rather favored by heat and is retarded by cold. The hurry to get through this form of the operation, for fear of clotting, is certainly one of its drawbacks. The great point is to have everything ready, and not to take the blood from the arm of the donor until the arm of the patient is prepared and ready to receive it.

The quantity used has been from four to twelve ounces, or in one case twenty ounces.

The entrance of air into the veins has always been one of the bugbears of transfusion, but there is now reason to think that too much has been made of it. Oré has shown that a small quantity of air thrown into the femoral vein of a dog does no harm; so, although of course the less air admitted the better, one need not be afraid in case of emergency to use an ordinary syringe.

3. *Immediate transfusion from vein to vein.*—It has been objected to this method that the blood thus used contains all the impure *débris* of the tissues, and must, therefore, be injurious; but the veins are certainly proper receptacles for venous blood, and once in the patient's system it soon becomes arterial. The current of blood in the veins being without impetus, the difficulty of sending blood from vein to vein has been simply and ingeniously met by Dr. Aveling. This instrument consists of a small india-rubber tube, about a foot long, with a bulb in the centre. The ends are supplied with canules for entering the veins, and the blood is propelled along the tube by a manipulation of the bulb and of the tube itself, a knowledge of which can be acquired only by practice.

4. *Immediate transfusion from artery to vein.*—This is the oldest form of transfusion, and has the advantage that the blood is purer than in the other varieties. Whenever it is used, the blood of the lamb is employed, as opening an important artery in the human subject is generally considered too serious an undertaking. The animal must be firmly secured by straps, the slightest movement being fatal to the operation. Dr. Madge thinks that, in the present state of our knowledge, each of these four principal forms may be employed with an almost equal chance of success.

ICE CLYSTERS IN THE TREATMENT OF DYSENTERY (by Dr. Bodo Wenzel).—In my travels during the past and present years, in the position of ship-surgeon, to Havana, New Orleans, and New York, I had occasion to treat a large number of cases of dysentery, both on shipboard and on land. Among the various agents to which I was compelled to resort in obstinate cases, one showed itself especially beneficial, and at the same time extraordinarily simple, cheap, and innocuous in application. So far as I know, it has never been used in general practice. I refer to clysters of ice-water, or rather of finely-powdered ice.

I was led to adopt this treatment in the following way. On the passage from New York I had on the vessel one extremely aggravated case of dysentery. It was characterized by high fever, severe pains in the abdomen, and especially by so exceedingly abundant hemorrhages with the very frequent stools, that the loss of blood alone involved direct danger to life, and induced me to order

in symptomatic treatment ice-water clysters every two hours.

A surprisingly happy effect ensued; not only in the fact that the hemorrhages immediately checked up and ceased altogether, but also in the almost immediate abolition of the distressing tenesmus, with a reduction of the whole febrile process. I ceased all other medication. The patient himself, so soon as he felt the least manifestation of pain, called for ice-clysters at once, and, under their use alone, this case, one of the worst which I have ever seen, so far recovered in fourteen days that he went ashore at Hamburg with good appetite, etc.,—in short, in perfect health.

Encouraged with this experience, I tried this treatment in less severe and in chronic cases, also on myself, for I did not escape attack, when I found that in all the acute and recent cases, light as well as severe, the same excellent results followed. I was compelled to use only rarely small doses of opium in addition. In most cases the medication mentioned was the sole treatment. On the other hand, I must say that in chronic dysentery, in old and recurrent cases, this means, like all others, is of less or only of transitory benefit.

I am justified in stating, then, that *in all acute and recent cases an energetic local antiphlogosis is a most effective, perhaps the most effective, treatment of dysentery.—Berliner Klinische Wochenschrift*, Dec. 1, 1873; from *The Clinic*.

Case of Intra-recto-abdominal Manual Exploration (*New York Medical Journal*, February, 1874).—Dr. Leale reports the case of a woman, æt. 45, who, while suffering intensely from an attack of dysmenorrhœa, drank, with suicidal intent, two ounces by weight of pure chloroform. She was seen half an hour after, at which time she was profoundly anæsthetized, and had not vomited. Free emesis was produced by salt-and-water, but the ejecta did not emit the slightest odor of chloroform, while at the same time the expirations were strongly charged with its vapor. The stomach was washed out by means of a pump, and about a pint of water (100° Fahr.) was injected to act as a brisk diuretic. Her pupils were moderately dilated, and did not respond to light; conjunctiva insensible. Within half an hour the pulse-rate increased from 72 to 140, the heart's action growing very feeble; the surface of the body became cold and cyanotic, and death from asthenia was evidently impending. At this time the hand was cautiously carried through the sphincter ani, passed along the rectum and the sigmoid flexure into the descending colon. Direct irritation of the solar plexus of the great sympathetic nerve was then employed, and the hand carefully withdrawn.

A return to consciousness speedily followed, and the case resulted in complete recovery.

Suspected Pregnancy—Foreign Body in the Bladder (*The Lancet*, January 24, 1874).—Mr. T. W. Hine relates the case of a girl, æt. 17, who was admitted to the Hospital for Women, having been dismissed from her situation on suspicion of being pregnant. She had not menstruated for six months; her abdomen was very prominent; her breasts were large and full, the nipples firm and projecting from a dark, well-defined areola, which was studded with enlarged follicles; there was no milk; she had had severe attacks of vomiting. Since the cessation of menstruation she had suffered from temporary attacks of incontinence of urine, and had not passed more than a wineglassful at any time, but micturition was painless. The urine was thick, dark, turbid, and offensive. On passing a metallic catheter into the bladder a large calculous mass was struck, and was subsequently removed with the lithotrite. It proved to be a tooth-brush handle encrusted with urates and phosphates. The girl admitted having used it to relieve stoppage of urine. In a week she was discharged well, and twenty-five days afterwards she menstruated for the first time in seven months.

Theoretical and Experimental Researches on the Causes and Mechanism of the Circulation in the Liver—Thesis by M. Rosapelly (M. Duval).—In considering the hepatic circulation, M. Rosapelly first endeavored to define clearly thoracic aspiration and to determine its variations; he then passed directly to the study of the venous circulation of the liver, touching on the arterial circulation only so far as it enabled him to establish his conclusions. The methods used in these investigations were the same as those employed by Marey and P. Bert in exploring other parts of the circulatory apparatus. He found that thoracic aspiration, although periodically increased in intensity at each inspiration, is continued throughout the whole respiratory act, and that its principal cause is the dilatation of the mediastinum by the pulmonary retractility or elasticity. This elasticity, which is never satisfied unless there is an artificial opening in the walls of the chest, prevents all the force of the atmospheric pressure from being exercised on the organs situated in the mediastinum: these organs, therefore, are only subjected to a negative pressure, which of course is greatest during inspiration; for at that time, the thorax being dilated, there is a larger surface to be acted upon.

The author also proves that the action of the diaphragm produces an effect on the portal vein just the reverse of that which the thoracic aspiration exercises on the vena cava and the hepatic veins. Hence it results that at each inspiration two causes concur to accelerate the current of blood in the liver,—viz., the increased pressure in the portal vein, and the diminished pressure in the hepatic veins. These causes, on the other hand, retard the blood-current during expiration.

It is to be regretted that no mention has been made of the influence of the vaso-motor nerves on the blood-vessels of the liver; but, notwithstanding this omission, M. Rosapelly's researches have gone far towards filling an important gap in the physiology of the circulatory system.—*Le Mouvement Médical.*

Loss of the Upper Extremity and Scapula—Recovery (*The Lancet*, January 3, 1874).—Dr. Katholitzky reports the case of a bricklayer, aged 37, who was caught in a piece of machinery in such a manner that his right arm and shoulder-blade were instantly torn off. He was seen an hour and a half after the accident; the wound was about ten inches long and eight inches wide, and extended downwards from the acromial end of the clavicle along the right side of the chest. The hemorrhage was inconsiderable, and no bleeding or pulsating vessel could be discovered. The action of the heart was extremely weak, with eighty pulsations per minute, and the right subclavian artery could hardly be felt. The size of the wound was diminished by bringing up the margins and holding them *in situ* by means of steel clamps; compresses were placed under the clavicle, and held in position by a bandage passing over the sound shoulder, and an iced water-dressing was applied. The pain was relieved by hypodermic injections; carbolic acid was added to the dressing on the third day, when superficial gangrene occurred; and on the fourteenth day the greater part of the wound had closed by first intention. Seven weeks after the accident the cure was complete.

Arsenical Paper Hangings.—"Arsenic occurs not only in the bright papers, but also occasionally in the white or cream-colored enamel paper so frequently used for drawing-rooms, and in drab papers tinted with ochre."—*The Lancet*, January 3, 1874.

## MISCELLANY.

ORIGIN OF GUM.—According to the researches of various German investigators, gum is the product of a retrograde metamorphosis of cellulose. Mohl (*Botanische Zeitung*, 1857, p. 33) found that the cells of the pith and the medullary rays of a species of Astragalus at first had a normal appearance, and offered a cell-wall composed of ordinary cellulose. As the plant increased in age the walls of these medullary cells underwent a change, which affected first the outer layers of each wall, and extended irregularly towards the centre of the cell. By this change the cellulose was converted into tragacanth. Wigand has studied the formation of arabin and bassorin (*Jahrbücher f. wissensch. Botanik*, 1861, iii. p. 117) in the stem of the plum. According to his researches, the bassorin is formed first, and the arabin is the result of a further metamorphosis of it. This conversion of cellulose into gum has also been certified to by Kützing, by Hofmeister (*Berichte d. k. sachs. Gesellschaft d. Wissensch.*, 1858), by Nägeli (*Sitzungsberichte der k. bayerischen Akad. d. Wissensch.*, 1864), and by Cramer (Nägeli and Cramer's *Pflanzenphysiologie Untersuch.*, Heft iii.). It is, without any reasonable doubt, the only method in which gum is formed; and, as has been noted by the authorities mentioned, in the cactus, in the mistletoe, and in the fruit of various species of plants, probably all the mucilaginous vegetable principles are formed in this way. In the low algæ, during the formation of the motile reproductive bodies known as zoospores, the rapid conversion of the cellulose wall into a mucilaginous substance, soluble in water, always occurs.

THE HELIOPIKTOR.—In the *Berliner Klinische Wochenschrift* Dr. S. Th. Stein, of Frankfort-on-the-Main, gives a description of an instrument which he has invented, called the heliopiktor, by the use of which he claims that any one, although ignorant of the technicalities of photography, can obtain all the benefits of that art. No photographic atelier is needed; the plate upon which the impression is to be made is prepared automatically. The method possesses two principal advantages for physicians and surgeons over ordinary photography: 1. The plate is automatically prepared, so that any one ignorant of photography is able with the apparatus to produce good pictures. 2. The operation can be carried on in the light, so that a darkened chamber can be dispensed with as well as a photographic atelier specially arranged. The heliopiktor can be adjusted to the eye-piece of the microscope, so that pictures of objects under examination, magnified to any required degree, can be made. By means of special arrangement of mirrors, photographic pictures can be made of the various parts seen with the ophthalmoscope, laryngoscope, etc.

PUBLIC URINALS IN PARIS.—There are in Paris 730 places of public accommodation styled "urinoirs." This number includes 40 having the shape of a kiosk, and belonging to the Compagnie des Kiosques, 234 of the same shape belonging to another company, and for each of which the city pays tribute; 228 having the shape of stalls or boxes lighted by gas, and about 200 having a central position, and three stalls on each side. The latter is the newest model, quite recently adopted. It is gratifying to know that the two uncovered slabs of slate so commonly met with at the angles of houses, and which exposed the occupiers to the gaze of passers-by, will be shortly entirely suppressed.—*The Lancet.*

EMULSION OF COD-LIVER OIL.—

℞ Ol. morrhuæ, f℥viij;
Tragacanth., ℥i;
Sacchar. alb., ℥iv;
Ol. gaultheriæ, gtt. lx;
" sassafras, gtt. l;
" amygd. amar., gtt. x;
Aquæ, f℥viij.

The tragacanth and sugar are to be dissolved in the water, and the mucilage strained. In this are to be incorporated first the essential oils and then the cod-liver oil. This makes an elegant-looking emulsion, not too thick, containing fifty per cent. of the oil, and of a rather pleasant taste and smell.—WILLIAM M. RICE, Jr., in *The American Journal of Pharmacy.*

RATIONAL MEDICINE WELL DEFINED.—The Italian journals relate that a vice-professor of the Faculty of Medicine of Naples, having asked permission of the Faculty to open a course on homœopathy, received the following answer: "The Faculty could not grant the authorization, seeing that rational medicine, which is taught on the basis of natural sciences, excludes allopathy as well as homœopathy, and, indeed, all absolute systems of medicine."—*The Lancet*, December 13.

THE INDIAN CINCHONA BARK.—At a late sale in London, part of a lot of mossed crown bark (Cinchona officinalis), the product of the plantations of the Neilgherry Hills, a range of mountains near the western coast of India, where the cinchona-tree has been for several years under cultivation, brought the great price of 5*s.* 9*d.* per pound. This is about $1.40, gold rate. The whole amount disposed of on the occasion referred to was 23,646 pounds, at an average price of about seventy cents.

ACCORDING to the *Berliner Klinische Wochenschrift*, November 24, there is only about one-half the usual number of students at the various clinics of the city. The journal quoted attributes this falling-off chiefly to the very greatly increased cost of living in Berlin.

FOR THE CHAFING OF INFANTS.—Take of powdered starch two parts, white oxide of zinc one part. Make a fine, well-mixed powder. Dust the abraded parts with the powder, after proper cleansing.—*Exchange.*

THE death of Max Schultze, the celebrated anatomist, is stated to have occurred on the 16th ult., at Bonn.

# NOTES AND QUERIES.

To the Editor of the Philadelphia Medical Times:

Sir,—Your correspondent Vertex must, judging from his language, have had an exceedingly bad taste in his mouth when he wrote the letter which appears in your last number; but he seems to have grievances, and to wish them redressed. So far as can be gathered from his choice epithets, he objects, in common with the *Times*, to anything that may resemble advertising, except, perhaps, the name upon the window-shutter; and, moreover, seems to be particularly grieved that some people, who might fall to the share of struggling practitioners, endeavor to get free treatment at dispensaries and similar institutions. He is also opposed to hospital service in general: at least the size of his type and his elegance of expression favor that supposition. As, however, so far as I can judge, the weight of his article is intended to fall upon dispensaries, their physicians and patients, I should be glad of the opportunity of making a few remarks upon this part of his letter.

Now, considering that he, like the rest of us, is evidently anxious to get patients, it would seem, perhaps, injudicious to stigmatize that class of persons to which alone he thinks himself entitled to have access as "curs," "mongrels," and "whelps," all of low degree." It may be well enough to revile a poor patient, but to sneer at his position in society is, in a democratic country at least, injudicious. In fact, if he does it often I do not wonder much that there is a class "even from which he is debarred."

Most young physicians strive to obtain experience, believing that their future success must depend upon it; and hence arises, I believe, the desire to obtain dispensary and hospital positions. For I should like to ask Vertex whether he really believes that dispensary physicians increase their private practice while they are serving. I do not; and I fancy that the weight of the evidence is against Vertex. If a man lectures, and lectures well, he may obtain some consultation-practice, and from the very class which Vertex claims to represent; but as for ordinary practice, as Vertex says himself, so long as the patient can get advice from the dispensary doctor free, he is not inclined to pay any one for it; not even the man who is ready to give it to him for nothing. Afterwards, when experience has been acquired, practice does increase, no doubt; but, for the sake of humanity, Vertex might suppose that it is ability rather than charlatanism which has commanded success in the case of our leading practitioners. He should do so, or else, when his own success arouses the envy of future Vertexes, they may choose to consider it due less to his ability than to the suave manners and command of courtly language shadowed forth in his letter.

That lawyers, or even clergymen, do get paid, does not seem to me a convincing proof that medical men should not manage their own affairs as suits their own feelings; and the disparity seems removed when it is considered that, according to Vertex, while medical men do serve for nothing, it is for nothing,—save self-interest.

Medical *opinions*, it seems to me, have all the weight they are entitled to, from the condition of the medical art. Medical *practice*, as a rule, commands respect and obedience in proportion to its quality, and that quality can be improved only by experience,—an experience which can hardly be gained except by means of the dispensary system. That patients are taken away from some is, no doubt, true; and I freely admit that some persons well able to pay receive medical aid gratis, probably as much to the annoyance of the dispensary physician as of any other; but it seems to me as if that were rather the fault of the patient than of the physician; and while we all would be glad to see this class of persons forced to pay, it is hard to suggest a feasible remedy for the evil. Certainly Vertex does not do it, though, feeling so keenly as he does, it would be well if a little of his superfluous energy could be brought to bear upon the practical solution of the difficulty.

In conclusion, as I believe that the change must be made to some extent, at least among the patients, I may be pardoned for suggesting to Vertex that in writing to the daily press he should be less liberal in the use of such language as that which he seems to think appropriate when addressing the editor of the *Philadelphia Medical Times*.

Respectfully,

X.

Philadelphia, February 8, 1874.

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To the Editor of the Philadelphia Medical Times:

Dear Sir,—Will you permit me, through your valuable columns, to ask for professional opinions upon a matter in regard to which, unless I have held mistaken views, there is some laxity of practice in high places?

Mr. Greenbag, a lawyer of excellent professional and social standing, as been more or less constantly under my care for several years, on account of a tedious and troublesome, but not dangerous, malady. Some ten months ago, at his request, I called Dr. Bistoury to see him with me. After a most careful consultation, in which all the available plans of treatment were discussed, the course which I had been pursuing was decided to be the best, and I so informed Mr. Greenbag on the only subsequent occasion when I saw him professionally.

About two months ago, meeting Mr. Greenbag in the street, I was told by him that he was then, and had been almost ever since our consultation, under Dr. Bistoury's care for the same trouble. The treatment had been slightly changed, but no improvement had ensued.

Now, Mr. Editor, it seems to me that Dr. Bistoury's course towards me was neither friendly nor professionally correct. I had always regarded him as a man in whose honor I could implicitly trust,—as one whom I could call to the bedside of a patient without the risk of losing my own place there. Physicians would never call consultations if they were certain of being supplanted by those so summoned. And in proportion to the risk of it will they hesitate in so doing. If this is a legitimate thing,—if the consultant may quietly assume the charge of the case, and leave his friend and professional brother out in the cold, the former being without blame, and the latter without just cause of complaint,—the sooner we know it the better. Most assuredly I shall not give Dr. Bistoury another opportunity of "gobbling up" one of my patients, if I can help it; and yet I would rather have lost a dozen cases than have found out that my trust in him was misplaced.

If I am wrong in this matter, my own practice in regard to it has always been needlessly rigid, and I hope to be set right.

Respectfully yours,

Samuel Scalpel.

January 23, 1874.

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*Answer.*

The relations of consultant and family physicians certainly involve many very delicate ethical questions. But we think consultants will find it most profitable to refuse to have anything to do with patients whom they have seen with their family physician. Whether this be so or not, in the present instance Dr. Bistoury seems to us to have been guilty of a clear infraction of Art. v. Sec. 4 of the Code of Ethics, which reads as follows:

"Art. v. Sec. 4.—A physician ought not to take charge of, or prescribe for, a patient who has recently been under the care of another member of the faculty in the same illness, except in cases of sudden emergency, or in consultation with the physician previously in attendance, or when the latter has relinquished the case, or been regularly notified that his services are no longer desired."

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To the Editor of the Philadelphia Medical Times:

Permit me to express an opinion in regard to two or three points made by "Vertex" in your journal of February 7.

I heartily approve of the spirit of the first part of his communication. The slights to which the younger members are subjected by a *few* of the older and established, yet grasping, members of our profession, are disgraceful, and come clearly within the jurisdiction of the Code of Ethics.

But "Vertex" makes a poor show in attempting to convince his readers that hospitals and such like institutions are "destined to crush not only the struggling practitioner, but to embarrass the whole profession."

Now, I take it that the history of medicine, past and present, justifies the assertion that our profession advances in intelligence, honor, and usefulness, and approaches nearer to a "fixed science," just in proportion as these said hospital facilities are increased.

Who are the men leading us out from the superstition, mystery, and errors of empiricism,—who are our investigators and communicators of advanced knowledge, but hospital men? Where could such an accumulation of reliable statistics be obtained, but in hospitals and dispensaries?

As in all other professions, ours owes its advancement in knowledge to the labors of a comparatively few of its members.

The hospital is almost invariably the field of their investigations.

The results become common property. We gather where they sowed.

Ex.

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## PHILADELPHIA COUNTY MEDICAL SOCIETY.

The next conversational meeting will be held Wednesday evening, February 25, 1874, at 8 o'clock.

Dr. L. Turnbull will read a paper on "Tinnitus Aurium."

All regular practitioners of medicine in the city are cordially invited.